

AMENDMENTS TO THE CLAIMS

Claims 1-19 are pending. Claims 1, 4, 11 and 19 have been amended. Claims 20-35 are new, leaving claims 1-35 currently pending.

1. (Currently Amended) An apparatus for driving a liquid crystal display including a plurality of pixels arranged in a matrix, the apparatus comprising:
a gray voltage generator generating a plurality of gray voltages;
a data driver selecting data voltages from the gray voltages corresponding to image data and applying the data voltages to the pixels; and
a signal controller supplying the image data for the data driver, determining image types of images represented by the image data in two adjacent frames during an interval period based on the difference in the image data between two adjacent frames during a filtering period, and suspending image data modification during a predetermined period if the image types of images during the interval period are determined to be still images,
the signal controller comparing a present image data with a previous image data for each pixel and generates a first comparison signal for each pixel row,
the signal controller counting the number of the pulses contained in each of the first comparison signals and generates a second comparison signal for each frame,
the signal controller counting the number of the pulses contained in each of the second comparison signals and generates a third comparison signal for the filtering period,
the signal controller determining that the image types during the interval period following the filtering period are motion images if the respective number of the pulses contained in the third comparison signals for the interval period is more than a third predetermined number and, that if not, the image data for the filtering period are still images, and
the signal controller outputting an image type selection signal having a first state or a second state based on the determination.

2. (Previously Presented) The apparatus of claim 1, wherein the image data modification includes at least one of the image data modifications that include DCC (dynamic capacitance compensation), ACCE (adaptive color contrast enhancement), and ACC (accurate color capture).

3. (Previously Presented) The apparatus of claim 1, wherein the signal controller determines the image types as motion images when the number of the pixels having different image data between two adjacent frames or the number of the pixels having the difference in the image data between two adjacent frames larger than a predetermined value is more than a predetermined number.

4. (Currently Amended) The apparatus of claim 1, wherein the signal controller comprises:

a data comparator for comparing the a present image data with the a previous image data for each pixel and for generating the a first comparison signal for each pixel row, the first comparison signal having pulses generated when the present image data differs from the previous image data or when the difference between the present image data and the previous image data is larger than a predetermined value;

a first counter for counting the number of the pulses contained in each of the first comparison signals and for generating the a second comparison signal for each frame, the second comparison signal having pulses generated when the number of the counted pulses in the respective first comparison signals is larger than a first predetermined number;

a second counter for counting the number of the pulses contained in each of the second comparison signals and generating the a third comparison signal for the filtering period, the third comparison signal having pulses generated when the number of the counted pulses in the respective second comparison signals is larger than a second predetermined number; and

a frame state detector for determining that the image types during the interval period following the filtering period are motion images if the respective number of the pulses contained in the third comparison signals for the interval period is more than a

third predetermined number and, that if not, the image data for the filtering period are still images, and for outputting the ~~an~~ image type selection signal having the a first state or the a second state based on the determination.

5. (Original) The apparatus of claim 4, wherein the first predetermined number is larger than 30% of the total number of possible pulses in the first comparison signal.

6. (Original) The apparatus of claim 4, wherein the second predetermined number is larger than 30% of the total number of possible pulses in the second comparison signal.

7. (Original) The apparatus of claim 4, wherein the third predetermined number is equal to or larger than one.

8. (Previously Presented) The apparatus of claim 4, wherein the interval period includes twenty-five sequential frames.

9. (Previously Presented) The apparatus of claim 8, wherein the filtering period includes five sequential frames.

10. (Previously Presented) The apparatus of claim 9, wherein the signal controller determines image types of images represented during a next filtering period that follows the interval period based on the image types of images represented during the interval period.

11. (Currently Amended) The apparatus of claim 4 ~~18~~, wherein the image type selection signal maintains either a first state or a second state during the interval period and the next filtering period, and the first state is one of a high state or a low state.

12. (Original) The apparatus of claim 1, wherein the signal controller further comprises a frame memory storing image data for at least one frame.

13. (Original) A method for driving a liquid crystal display including a plurality of pixels arranged in a matrix, the method comprising:

- reading out image data of a previous frame and of a present frame;
- comparing the image data of the previous frame with the image data of the present frame for every pixel;
- generating a first comparison signal for each pixel row, the first comparison signal including pulses generated when the image data of the previous frame differs from the image data of the present frame or the difference between the image data of the previous frame and the image data of the present frame is larger than a predetermined value;
- counting the number of the pulses included in each of the first comparison signals;
- generating a second comparison signal for each frame, the second comparison signal including pulses generated when the number of the counted pulses in the respective first comparison signals is larger than the first predetermined number;
- counting the number of the pulses included in each of the second comparison signals;
- generating a third comparison signal for each of first periods, the third comparison signal including pulses generated when the number of the counted pulses in the respective second comparison signals is larger than a second predetermined number;
- determining that image data for respective second periods following the first periods represent motion image when the respective number of the pulses included in the third comparison signals is larger than a third determined number, determining as still image if not; and
- suspending predetermined control operation if the image data represent still image.

14. (Original) The method of claim 13, wherein a first period includes five sequential frames.

15. (Original) The method of claim 14, wherein a type of an image for a first period is determined to be the same as the type of the image for a preceding second period.

16. (Original) The method of claim 13, wherein a second period includes twenty five sequential frames.

17. (Original) The method of claim 16, wherein a type of an image for a first period is determined to be the same as the type of the image for a preceding second period.

18. (Previously Presented) The apparatus of claim 10, wherein the image types of images represented during the interval period are substantially the same as the image types of images represented during the next filtering period.

19. (Currently Amended) The apparatus of claim 1 ~~44~~, wherein the predetermined period has a combined length of the interval period and the filtering period.

20. (New) An apparatus for driving a liquid crystal display including a plurality of pixels arranged in a matrix, the apparatus comprising:

a gray voltage generator adapted to generate a plurality of gray voltages;

a data driver adapted to select data voltages from the gray voltages corresponding to image data and applying the data voltages to the pixels; and

a signal controller adapted to supply the image data for the data driver,

wherein the signal controller compares present image data with previous image data for each pixel and generates a first signal for each pixel row,

wherein the signal controller counts the number of pulses in each of the first

signals and generates a second signal for each frame,

wherein the signal controller counts the number of pulses in each of the second

signals and generates a third signal,

wherein the signal controller determines whether the image types are motion images if the number of the pulses in the third signals is more than a third predetermined number and, if not, the image types are still images, and

wherein the signal controller outputs an image type selection signal having a first state or a second state based on the determination.

21. (New) The apparatus of claim 20, wherein the signal controller determines image types of images represented by the image data in two adjacent frames during an interval period based on the difference in the image data between two adjacent frames during a filtering period, and suspends image data modification during a predetermined period if the image types of images during the interval period are determined to be still images.

22. (New) The apparatus of claim 21, wherein the image data modification includes at least one of the image data modifications that include DCC (dynamic capacitance compensation), ACCE (adaptive color contrast enhancement), and ACC (accurate color capture).

23. (New) The apparatus of claim 21, wherein the signal controller determines the image types as motion images when the number of the pixels having different image data between two adjacent frames or the number of the pixels having the difference in the image data between two adjacent frames larger than a predetermined value is more than a predetermined number.

24. (New) The apparatus of claim 21, wherein the interval period includes twenty-five sequential frames.

25. (New) The apparatus of claim 21, wherein the filtering period includes five sequential frames.

26. (New) The apparatus of claim 21, wherein the signal controller determines image types of images represented during a next filtering period that follows the interval period based on the image types of images represented during the interval period.

27. (New) The apparatus of claim 26, wherein the image type selection signal maintains either the first state or the second state during the interval period and the next filtering period, and the first state is one of a high state or a low state.

28. (New) The apparatus of claim 20, wherein the signal controller comprises a data comparator adapted to compare the present image data with the previous image data for each pixel and generate the first signal for each pixel row, wherein the first signal comprises pulses generated when the present image data differs from the previous image data or when the difference between the present image data and the previous image data is larger than a predetermined value.

29. (New) The apparatus of claim 20, wherein the signal controller comprises a first counter adapted to count the number of pulses in each of the first signals and generate the second signal for each frame, wherein the second signal comprises pulses generated when the number of counted pulses in the first signals is larger than a first predetermined number.

30. (New) The apparatus of claim 29, wherein the first predetermined number is larger than 30% of the total number of possible pulses in the first comparison signal.

31. (New) The apparatus of claim 20, wherein the signal controller comprises a second counter adapted to count the number of pulses in each of the second signals and generate the third signal, wherein the third signal comprises pulses generated when the number of counted pulses in the second signals is larger than a second predetermined number.

32. (New) The apparatus of claim 31, wherein the second predetermined number is larger than 30% of the total number of possible pulses in the second comparison signal.

33. (New) The apparatus of claim 20, wherein the signal controller comprises a frame state detector adapted to determine whether the image types are motion images if the number of pulses in the third signals is more than the third predetermined number and, if not, the image types are still images, and output an image type selection signal having a first state or a second state based on the determination.

34. (New) The apparatus of claim 33, wherein the third predetermined number is equal to or larger than one.

35. (New) The apparatus of claim 20, wherein the signal controller comprises a frame memory storing image data for at least one frame.